

CLAIMS

1. A staple gun with a cap feeding device comprising:
 - a. a staple gun for ejecting one staple at a time;
 - b. a cap feeding device attached to the staple gun for dispensing one cap at a time into the path of a staple being ejected from the staple gun, the cap feeding device comprising:
 - i. a cap container for containing a stack of caps;
 - ii. a shuttle mechanism disposed adjacent the cap container and including a feeder that moves back and forth between a first and second position and wherein the feeder is operative to engage and move one cap at a time from the stack of caps contained in the cap container;
 - iii. a guide extending between the feeding device and the staple gun for directing caps from the cap feeding device to a position adjacent the staple gun such that staples being ejected from the staple gun can be directed through the caps;
 - iv. a movable mechanical linkage connected between the staple gun and the cap feeding device for causing one cap at a time to be positioned in the path of a staple being ejected by the staple gun; and
 - v. the mechanical linkage being movable in response to the staple gun being actuated and operative to actuate the shuttle mechanism and drive the feeder.

2. The staple gun of claim 1 wherein the staple gun is manually operated and includes at least two portions wherein one portion moves with respect to the other portion, and wherein the cap feeding device is fixed with respect to one portion and the movable mechanical linkage is connected to the other portion.

3. The manual staple gun of claim 2 wherein the movable mechanical linkage is arranged with respect to the manual staple gun and the cap feeding device such that as one portion of the manual staple gun moves with respect to the other, the mechanical linkage drives the shuttle mechanism and causes the feeder thereof to move between a first and second position.

4. The manual staple gun of claim 3 wherein in the first position the feeder assumes a position underneath the stack of caps in the container, and wherein in the second position the feeder assumes a position spaced away from the first position which allows a lower cap of the stack of caps in the container to move into the guide.

5. The manual staple gun of claim 4 wherein the shuttle mechanism includes a spring for biasing the feeder towards the first position.

6. The manual staple gun of claim 5 wherein the feeder includes a cap engager and an arm extending from the cap engager and which is pivotally mounted on the cap feeding device.

7. The manual staple gun of claim 6 wherein the spring is attached to the arm of the feeder and biases the cap engager to the first position that underlies the stack of caps in the container, and wherein the mechanical linkage is operative to engage and move the arm against the bias of the spring such that the cap engager is moved to the second position.

8. The manual staple gun of claim 7 wherein the mechanical linkage includes a pair of spaced apart links that extend from the manual staple gun to a position where the mechanical linkage engages the arm of the feeder.

9. The manual staple gun of claim 8 wherein the movable portion of the manual staple gun includes a movable member and wherein the other portion of the manual staple gun includes a main body portion and wherein when the manual staple gun is actuated the movable member engages a surface and moves with respect to the main body portion, and wherein the mechanical linkage for actuating the feeder is connected to the movable member.

10. The staple gun of claim 1 wherein the container of the cap feeding device is disposed at an incline and wherein the guide includes a curved track that extends from the bottom of the container to a staple ejection area of the staple gun.

11. The staple gun of claim 1 wherein there is a staple ejection area associated with the staple gun and wherein the guide extends into the staple ejection area and includes a seat for holding individual caps in the staple ejection area, and wherein the seat is configured such that the force of a staple ejected through the underlying cap within the seat is sufficient to discharge the cap from the seat.

12. The staple gun of claim 11 wherein the seat of the guide includes a tapered edge that facilitates the discharge of a cap from the seat.

13. A method of feeding caps from a cap feeding device to a staple gun wherein the cap feeding device is attached to or forms a part of the staple gun, comprising:

- a. engaging a surface with the staple gun;
- b. pressing the staple gun against the surface and causing one portion of the staple gun to move with respect to another portion;
- c. driving a cap feeder associated with the cap feeding device in response to one portion of the staple gun moving with respect to the other portion; and

- d. wherein the step of driving the cap feeder includes moving a linkage that is interconnected between the staple gun and the cap feeding device and wherein the movement of the linkage is initiated by pressing the staple gun against the surface and causing one portion of the staple gun to move with respect to the other portion.

14. The method of claim 13 including moving the cap feeder back and forth between first and second positions, and including biasing the cap feeder towards the first position and moving the cap feeder from the first position to the second position by pressing the staple gun against the surface and causing the linkage between the staple gun and the cap feeding device to be actuated.

15. The method of claim 13 wherein the staple gun includes first and second portions movable relative to each other, and wherein the cap feeding device is fixed relative to one portion and wherein the linkage is connected between the other portion of the staple gun and the cap feeding device such that when the staple gun engages a surface and one portion of the staple gun moves relative to another portion, the connecting linkage connected between the staple gun and the cap feeding device is actuated causing the cap feeder to be actuated.

16. The method of claim 13 wherein the cap feeder assumes a first position underneath a stack of caps contained within a container and is movable therefrom to a second position that permits a lowermost cap to move into alignment with a guide, and wherein the cap feeder is operative to move back to the first position underneath the stack of caps in the container, but wherein during the process the cap feeder is operative to engage the lowermost cap and advance the cap towards the staple gun.

17. A combination staple gun and cap feeding device comprising:
- a. a staple gun having a main body and a member movable with respect to the main body in response to a staple gun being pressed against a surface;
 - b. a cap feeder device mounted on the staple gun and including:
 - i. a container for holding a stack of caps;
 - ii. a guide extending between the container and a staple ejection area of the staple gun for directing caps from the container to the staple ejection area where a staple from the staple gun may be directed through an underlying cap so as to secure the cap to the surface;
 - iii. a feeder associated with the cap feeding device for transferring one cap at a time from the container to the guide;
 - iv. the feeder assuming a first position underneath the stack of caps and movable therefrom to a second position spaced from the first position such that the lower most cap of the stack can drop into a position where the lower most cap can be advanced through the guide to the staple ejection area; and
 - v. means for moving the cap feeder back and forth between the first and second positions, said means including at least one spring for biasing the cap feeder towards one of the two positions and a linkage interconnected between the movable member and the cap feeder for driving the cap

feeder towards the second position in response to the staple gun being pressed against the surface.

18. The combination staple gun and cap feeding device of claim 17 wherein the container is disposed at an angle with respect to the main body of the staple gun.

19. The combination staple gun and cap feeder of claim 18 wherein the guide is non-linear.

20. The combination staple gun and cap feeding device of claim 17 wherein the cap feeder includes a cap engager that is slidable back and forth and an arm connected to the cap engager and pivotally mounted on the cap feeding device.

21. The staple gun and cap feeding device of claim 20 wherein the linkage extending between the staple gun and the cap feeding device engages the arm of the cap feeder and moves the arm in response to the staple gun being pressed against a surface, and wherein there is provided a spring that is connected to the arm of the cap feeder and biases the cap feeder towards the first position.

22. A method of feeding caps from a cap feeder to a manual staple gun wherein the cap feeding device is attached to or forms a part of the staple gun, comprising: engaging a surface with the staple gun; pressing the staple gun against the surface and causing one portion of the staple gun to move with respect to another portion; and driving the cap feeder device in response to one portion of the staple gun moving with respect to the other portion.

23. The method of claim 22 including actuating a linkage that extends between the staple gun and the cap feeding device in response to the staple gun being pressed against the surface.

24. The method of claim 23 including driving a cap feeder back and forth between first and second positions in response to the staple gun being pressed against a surface.